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I have never seen specimens of Van Duzee's two species and the diagnostic characters are taken from his description. *A. pluto* Uhl., if a distinct species, is difficult to characterize except with comparison to *A. eurinus*. I have seen *A. conspersus* Mont. confused in collections with *Tollius curtulus* Stål, which I have taken at Kingsbridge, N. Y.

A GENERIC SYNOPSIS OF THE ITONIDÆ.

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As there is no complete synopsis of this group, better known as the Cecidomyiidae, extant we take this opportunity of presenting, in a summary form, the results of our studies of American species, many of the types of European genera and a close examination of the literature describing other forms.

Subfamily LESTREMIINÆ.

Small, dark brown or black species. Tarsi quinquearticulate, the first segment longer than the second; fourth vein usually present, forked, or simple; crossvein distinct; antennae moderately developed or greatly reduced; circumfili never present.

Tribe LESTREMINARIÆ.

This tribe is distinguished from the following by the fourth vein being forked.

Genus CATOCHA Halid. 1833, type *C. latipes* Halid.

Costa continuous and extending beyond the apex of the wing. Antennae with 11 or more segments, the second not plainly enlarged. Synonyms: *Furcinerva* Rond. 1846 in part, *Macrostyla* Winn. 1846. Europe, North America.

Genus LESTREMIA Macq. 1826, type *L. cinerea* Macq.

Costa not attaining the apex of the wing, practically disappearing at its union with the third vein. Male with 16, female with 11 antennal segments, the second not plainly enlarged. Synonyms: *Cecidogona* Loew 1844; *Furcinerva* Rond. 1846 in part; *Mimosciara* Rond. 1846; *Yposataa* Rond. 1856; *Molobraea* Rond. 1860. Europe, North and South America, Australia.

Genus MICROCERATA Felt 1908, type *Micromyia corni* Felt.

Antennæ greatly reduced, only 8 to 10 segments, the second greatly enlarged, globose, the two branches of the fourth vein nearly even. North America.

Genus TRITZOZYGA H. Lw. 1862, type *T. sackeni* n. sp.*

Male.—Antennæ short, 9 segments, the second ovate, the fourth with a length a little greater than its diameter; terminal segments compound, formed by the fusing of three segments. Palpi probably quadriarticulate, the third and fourth each with a length about four times its diameter. Wings as figured by Loew. Tarsi quinquearticulate, the first longer than the second. Type in the Museum of Comparative Zoölogy.

Distinguished from the above by the asymmetrical branches of the fourth vein. North America.

Genus LITHOMYZA Scudd. 1877, type *L. condita* Scudd.

Fourth vein forked as in *Lestremia*. Antennæ with 9 segments. A fossil form evidently having a close affinity to the two preceding genera. Fossil, North America.

Tribe *CAMPYLOMYZARIÆ*.

This tribe is separated from the preceding by the simple, nearly obsolescent fourth vein or its absence.

Genus STROBLIELLA Kieff. 1897, type *S. intermedia* Kieff.

Wingless, or if wings are present, the fifth vein simple. Claws with long, parallel teeth, the pulvilli very short. Europe.

Genus WASMANIELLA Kieff. 1897, type *W. aptera* Kieff.

Female wingless. Distinguished from the preceding genus by the denticulate claws and the rudimentary or obsolescent pulvilli. Europe.

Genus JOANISSIA Kieff. 1894, type *J. aurantiaca* Kieff.

Third vein usually well separated from costa and frequently uniting therewith at or beyond the apex; fourth vein present. Antennal segments 14 in the male, 11 in the female, globose, stemmed and ornamented only with irregular whorls of long hairs. Palpi tri- or quadriarticulate. Europe, North America.

Genus PEROMYIA Kieff. 1894, type *P. leveillei* Kieff.

Distinguished from the above by the 14 antennal segments of the male, the 13 in the female and the biarticulate palpi. The claws are strongly bent and dilated subapically. Europe.

* *Tritozyga sackeni*, new species.

Genus MYCOPHILA, new genus, type *M. fungicola*, n. sp.*

Male.—Length, 0.6 mm. Antennæ as long as the body, thickly haired, fuscous yellowish; 12 segments, the fifth with a stem one third the length of the subcylindric basal enlargement, the latter with a length one half greater than its diameter; subbasal whorl of setæ short, scattering; subapical band of setæ long, curved. Palpi indistinct; three ocelli. Mesonotum fuscous. Scutellum, post-scutellum, pleuræ and venter of abdomen reddish, the dorsal sclerites a variable fuscous; subcosta uniting with costa before the basal half, the third vein a little before the apex; fourth vein obsolete distally, fifth forked. Halteres pale yellowish. Legs fuscous yellowish; claws simple, pulvilli rudimentary. Reared from mushrooms.

Type Cecid 1320, N. Y. State Museum.

Allied to *Joanissia* Kieff. and *Peromyia* Kieff. Fourth vein rudimentary, obsolete distally, the male with 12, the female with 9 antennal segments, the flagellate segments cylindric, subsessile. North America.

Genus TRICHOPTEROMYIA Will. 1896, type *T. modesta* Will.

Location provisional; distinguished from the two preceding genera by the absence of the fourth vein. West Indies.

CERATOMYIA, new genus, type *C. johannseni*, new species.†

Male.—Length, 1.5 mm. Antennæ very short, composed of six segments, the first obconic, the second greatly swollen, subglobose, both fuscous, the remaining four segments a light fuscous yellowish, obpyriform, sparsely clothed with irregular, stout setæ, the third segment obpyriform, with a length a little greater than its diameter, the fourth a little shorter, the fifth with a length nearly three fourths greater than its diameter, the sixth produced, with a length fully twice its diameter and tapering to a narrowly rounded apex; each segment with a stout, chitinous subapical process, those on the fifth and sixth segments at least, greatly swollen basally and with a length nearly equal to that of the segment. Palpi; first segment greatly enlarged, pyriform, with a length one half greater than its diameter, the second greatly produced, dilated apically, with a length six times its diameter, the third less than one half the length of the second, fusiform; all sparsely haired. Mesonotum, scutellum and post-scutellum apparently a nearly uniform fuscous yellowish. Abdomen a fuscous whitish, the genitalia yellowish. Wings hyaline, costa light brown, subcosta uniting therewith near the basal third, the third vein, joined to the distal fifth of the subcosta by a distinct cross-vein as in *Micromyia*, unites with the margin of the wing at the apex, the fourth vein wanting, the fifth uniting with the posterior margin near the distal third, its branch at the basal fourth. Legs fuscous yellowish, the first tarsal segment with a length nearly

* *Mycophila fungicola*, new species.

† *Ceratomyia johannseni*, new species.

equal to that of the two following relatively short, quadrate segments, the fourth and fifth subquadrate; claws slender, very strongly curved, simple, the pulvilli as long as the claws. Genitalia: basal clasp segment long, tapering slightly; terminal clasp segment rather stout, with a length three times its diameter, tapering distally, one apparently deformed and with a second rudimentary terminal clasp segment; dorsal plate broad, broadly rounded apically; ventral plate indistinct; style triangular, tapering to a narrowly rounded apex.

Received from Ocotlan, Mexico, through Dr. O. A. Johannsen under date of December 12, 1910.

Type Cecid 1388, N. Y. State Museum.

Allied to *Micromyia* Rond. on account of the greatly enlarged second antennal segment, though easily separated therefrom by the absence of the fourth vein. The latter character indicates a relationship with *Trichopteromyia* Will. from which it may be separated by the greatly reduced antennæ, with only six short, sessile segments. North America.

Genus MICROMYIA Rond. 1840, type *M. lucorum* Rond.

Third vein uniting with costa before the apex. Antennae very short, 10 or 11 segments in the male, 8 in the female, the second greatly enlarged, the flagellate segments sessile in both sexes. Palpi quadriarticulate. Europe.

Genus CAMPYLOMYZA Meig. 1818, type *C. flavipes* Meig.

Antennal segments not very short, the second not greatly enlarged, the male with 14, the female with 11-22 segments, the flagellate ones ornamented with crenulate whorls or other structures more complex than irregular whorls of simple hairs. Synonym: *Neurolyga* Rond. 1846. Owing to the unsatisfactory characterization of the type species, this genus is tentatively given supergeneric rank and the following genera or subgenera separated therefrom. Europe, North America, Australia.

Genus PRIONELLUS Kieff. 1894, type *Prionota pini* Kieff.

Distinguished from forms having the general characters of *Campylomyza* by the more or less distinct subapical collar on the flagellate antennal segments and the denticulate claws, the pulvilli being well developed. Synonym: *Prionota* Kieff. Europe.

Genus APRIONUS Kieff. 1894, type *Apriona bidentata* Kieff.

Distinguished from the preceding genus by the simple claws and the short or rudimentary pulvilli. Europe.

Genus MONARDIA Kieff. 1895, type *M. stirpium* Kieff.

Males with 14 or 16 stemmed antennal segments, females with 11-22. This genus is most easily recognized by the subapical whorls of stemmed disks on the flagellate antennal segments, especially in the females. The claws, according to Kieffer, have a minute, subapical tooth. Europe, North America.

Genus BRYOMYIA Kieff. 1895, type *B. bergrothi* Kieff.

Distinguished from the preceding by the subapical reniform processes on the flagellate antennal segments. Claws bent at right angles, dilated subapically. Europe.

Genus CORDYLOMYIA, new genus, type *C. coprophila*, new species.*

Male.—Length, 1.25 mm. Antennae with 14 segments, the fifth with a stem three fourths the length of the cylindric basal enlargement, which latter has a length about three fourths its diameter, a thick subbasal whorl of setæ and on the apical half, three crenulate whorls, the distal two rudimentary; apically an irregular group of short, stout, curved, chitinous spines. Palpi quadri-articulate. Mesonotum dark brown. Scutellum and abdomen brown. Claws strongly curved, simple, the pulvilli longer than the claws. Basal and terminal clasp segments stout, the latter swollen near the middle. Dorsal plate short, broadly rounded. Harpes apically with five or six stout, recurved spines.

Female.—Length, 1 mm. Antennal segments 11, the fifth sessile, with a length one fourth greater than its diameter; subbasal whorl sparse, the subapical band of setæ short, scattering. Ovipositor short, the terminal lobes probably triarticulate.

Type Cecid 890, N. Y. State Museum.

Antennal segments 11 or 12 in the female, 14 in the male, the flagellate segments bearing subapical, frequently thick whorls of short, stout, occasionally recurved spines. North America.

Genus CORINTHOMYIA, new genus, type *Campylomyza hirsuta* Felt.

Antennal segments 14 in the male. Distinguished from preceding forms by the series of subequal whorls of stout, curved setæ on the sessile flagellate antennal segments. Pulvilli as long as the claws. North America.

Subfamily HETEROPEZINÆ.

A small group of peculiar forms, some being most remarkable on account of the great degree of specialization by reduction. The metatarsus is usually longer than the following segments. There are at

**Cordylomyia coprophila*, new species.

least three long veins, the cross-vein is wanting in most forms, the circumfili are absent.

Genus MEUNIERIA Kieff. 1904, type *M. succini*, new name proposed for the *Miastor du succin* of Meunier.*

An Amber form with quadriarticulate tarsi, the metatarsus being longer than the second segment; three long veins; palpi quadriarticulate. Location provisional.

Genus PALÆOSPANIOCERA Meun. 1901.

This name was proposed without indication of type for an amber species having three simple, long veins, the third simple, the tarsi quadriarticulate, the metatarsus longer than the second segment. Antennæ with 13 segments; palpi triarticulate. Body ovoid, elongate, the thorax slightly gibbous, the ovipositor with a conspicuous lobe. Apparently related to *Meunieria* Kieff. and *Miastor* Mein.

Genus MIASTOR Mein. 1864, type *M. metraloas* Mein.

Distinguished from the preceding by the biarticulate palpi. Europe, North America, South America, Australia.

Genus NEOSTENOPTERA Meun. 1901, type *Stenoptera kiefferi* Meun.

Wing very long, slender, with only one long vein and remarkable because of the long fringes. Tarsi quadriarticulate, the metatarsus longer than the second segment; palpi invisible. Apparently related to *Miastor* Mein., though easily separated therefrom by alar characters.

Genus HETEROPEZA Winn.† 1846, type *H. pygmæa* Winn.

Tarsi triarticulate, the metatarsus longer than the second; two long veins; the antennal segments cylindric. Europe, Australia.

Genus MONODICRANA H. Lw. 1850, type *M. terminalis* Kieff.

This amber species may be separated from the preceding by the globose antennal segments. Location provisional.

* 1901, Meunier, Fernand. Soc. Sci. Brux. Ann., 2d part, 28: 191.

† Messrs. Kunstler and Chaine in Comptes Rendus Hebdomadaires des Seances et Memoires de la Societe de Biologie, 1902, vol. 54, p. 535, give the characters of a form reared from bananas as follows: Tarsi biarticulate, the first segment longer than the second; wings with two or three long veins, the two first branched; palpi quadriarticulate. It was referred to the *Heteropeza* Winn., though no name was proposed and is presumably related to *Heteropeza* Winn. and *Monodicrana* H. Lw.

Genus HAPLUSIA Karsch 1877, type *H. plumipes* Karsch.

Tarsi quinquearticulate, the metatarsus shorter than the second segment; wing membrane finely haired, the fifth vein forked, the third extending to the apex of the wing; palpi quadriarticulate. South America.

Genus TETRADIPLOSIS Kieff. & Jörg. 1910, type *T. sexdentatus* Kieff. & Jörg.

Apparently allied to the preceding and easily separated therefrom by the plainly bidentate claws. South America.

Genus JOHNSONOMYIA Felt 1908, type *J. rubra* Felt.

Separated from the preceding form by the simple fifth vein, the sixth wanting. The palpi are quadriarticulate. North America.

Genus CHASTOMERA Skuse 1888, type *C. bella* Skuse.

This genus appears to be closely related to *Johnsonomyia* Felt, though easily separated therefrom by the pyriform flagellate antennal segments. It is remarkable because of the third vein being widely distant from subcosta, which latter is connected therewith at its distal fourth, the fifth vein simple. Australia.

Genus NECROPHLEBIA Skuse 1888, type *N. volitans* Skuse.

Appears to be closely related to the preceding, though the third vein is much nearer subcosta, the latter being united therewith near its basal third; antennal segments 14, the flagellate cylindric, with a stem one half the length of the basal enlargement. Australia.

Genus MEINERTOMYIA, new name, type *Pero fasciata* Mein.

A small form distinguished from the preceding by the triarticulate palpi and the third vein not extending to the apex of the acuminate wings. Synonym: *Pero* Mein. 1870, preoccupied by *Pero* H. Schf. Europe.

Genus LEPTOSYNA Kieff. 1894, type *L. acutipennis* Kieff.

Separated from the two preceding genera by the uniarticulate palpi. Wings acute apically. Europe, North America.

Genus FRIRENIA Kieff. 1894, type *F. tenella* Kieff.

Three long simple veins, the third disappearing before the tip of the wing; wing membrane finely haired; palpi biarticulate. Europe.

Genus EPIMYIA, new genus, type *E. carolina*, new species.*

Male.—Length, 1 mm. Antennæ sparsely haired, nearly black; probably 14 segments, the fifth with a stem one fourth the length of the subcylindric basal enlargement, which latter has a length two and one half times its diameter and a sparse basal whorl of stout setæ. Palpi triarticulate. Head, mesonotum and abdomen dark brown, the basal segment of the latter fuscous yellowish. Wings hyaline, the third vein uniting with costa at the distal fourth, the simple fifth at the basal half. Halteres fuscous. Legs dark brown; claws simple, the pulvilli about two thirds the length of the claws. Genitalia: basal clasp segment stout, truncate, the ventral angle produced, setose; terminal clasp segment irregular, apically with a long, recurved spine; dorsal plate deeply and roundly emarginate, the internal angles of the lobes produced, recurved, acute; ventral plate long, narrow, broadly and roundly emarginate, the lobes produced and tapering to an obtuse, sparsely setose apex.

Type Cecid ar621, N. Y. State Museum.

Readily separated from the preceding genus by the triarticulate palpi. North America.

Genus LEDOMYIELLA Meun. 1904, type *L. succini* Meun.

An amber species with the wing membrane scaled, the fifth vein forked; tarsi quinquearticulate, the metatarsus shorter than the second segment; palpi quadriarticulate.

Genus BRACHYNEURA Rond. 1846, type *B. fuscogrisea* Rond.

Distinguished from the preceding by the three simple long veins and the triarticulate palpi. Europe, North America, Australia.

Genus OLIGARCES Mein. 1865, type *O. paradoxus* Mein.

Small species, easily separated from other allies by the biarticulate tarsi. Europe and North America.

Subfamily ITONIDINÆ.

A group comprising by far the larger number of species and including practically all of the gall-making forms. Metatarsus always shorter than the following segment, the wings with three or four long veins; circumfili present.

Tribe EPIDOSARIÆ.

A distinct cross-vein uniting the third vein and subcosta and usually parallel with costa suffices to distinguish members of this group.

**Epimyia carolina*, new species.

Genus WINNERTZIA Rond. 1860, type *Asynapta lugubris* Winn.

Four long veins, the fifth simple, the sixth free, the cross-vein forming a considerable angle with costa. Antennal segments 13 or 14, the circumfili in both sexes forming horseshoe-like structures on opposite faces of each segment. Synonym: *Clinorhiza* Kieff. Europe, North America, South America, Australia.

Genus GONIOCLEMA Skuse 1888, type *G. pauxillula* Skuse.

Apparently closely allied to the preceding genus and separable therefrom by the fifth vein being obsolete basally and apically. Australia.

Genus DIALLACTES Kieff. 1894, type *D. croceus* Kieff.

A large form easily separated from the preceding by the fifth vein arising from the third vein near the cross-vein. Europe.

Genus BRYOCRYPTA Kieff. 1896, type *B. dubia* Kieff.

Three long veins, the cross-vein oblique, the fifth forked, close to the posterior margin and uniting therewith near the basal half. The wings are not very long and narrow and the terminal clasp segment is short. Europe.

Genus DIDACTYLOMYIA, new genus, type *Colpodia longimana* Felt.

Easily distinguished from the preceding by the fifth vein not being close to the posterior margin and uniting therewith near the distal fourth. The terminal clasp segment is greatly produced and slender. North America.

Genus LIEBELIOLA Kieff. & Jörg. 1910, type *L. prosopidis* Kieff. & Jörg.

Provisionally placed next *Didactylomyia* from which it is easily separated by the presence of a supernumerary vein at the base of subcosta and the simple claws; ovipositor short. South America.

Genus COLOMYIA Kieff. 1891, type *C. clavata* Kieff.

Antennal segments 21 in the male, the fifth with a stem one half longer than the basal enlargement; female antennæ with 30 to 31 segments, the fifth with a stem as long as the basal enlargement; palpi biarticulate. Separated from the two preceding genera by the simple fifth vein. Europe.

Genus PALEOCOLPEDIA Meun. 1904, type *P. eocenica* Meun.

Antennal segments 16, the fifth with a stem as long as the basal enlargement. Wings long, narrow, cross-vein at almost right angles to costa, the fifth vein simple, the sixth wanting. Amber.

Genus COLPEDIA Winn. 1853, type *C. angustipennis* Winn.

Small species with extremely long, slender wings. Distinguished from the preceding genus by the forked fifth vein. Europe, North America, Australia.

Genus ASYNAPTA H. Lw. 1850, type *Cecidomyia longicollis* H. Lw.

Cross-vein nearly parallel with costa; four long veins, the fifth simple, the sixth free. Antennal segments 16 or more; pulvilli single, longer than the claws. Europe, North America, Australia.

Genus CLINORHYTIS Kieff. 1896, type *C. flavitarsis* Kieff.

Distinguished from the preceding genus by the 14 antennal segments, the three pulvilli being shorter than the claws. Europe, North America, Australia.

Genus RUEBSAAMENIA Kieff. 1894, type *Asynapta pectoralis* Winn.

Antennal segments of male probably 16, the fifth with a stem one half the length of the basal enlargement; the female with numerous sessile antennal segments, each with a length about equal to its diameter. Palpi quadriarticulate; ovipositor as long as the body. Venation as in the two preceding genera, from which it is distinguished by the abdomen being recurved dorsally. Europe.

Genus DICERURA Kieff. 1897, type *D. scirpicola* Kieff.

Venation similar to that of *Asynapta* H. Lw. except that the fifth vein is obsolete basally. Antennal segments 16, the fifth of the male with a stem one half longer than the basal enlargement. Palpi quadriarticulate. Ovipositor of the female short, biarticulate. Synonym: *Iridomyza* Rübs. 1899. Europe.

Genus PORRICONDYLA Rond. 1840, type *Cecidomyia albitarsis* Meign.

Three long veins, the fifth forked. Antennal segments greatly produced in both sexes, 12-16; palpi quadriarticulate. Synonyms: *Epidosis* H. Lw. 1850; *Dicroneurus* Kieff. 1895. Europe, North America, Australia.

Genus CAMPTOMYIA Kieff. 1894, type *C. binotata* Kieff.

Separated from the preceding genus by the slender abdomen, the distal segments being recurved dorsally. Europe, North America.

Genus DIRHIZA H. Lw. 1850, type *Cecidomyia lateritia* H. Lw.

Antennal segments 14, the fifth of the male having a stem one fourth the length of the basal enlargement. Wing venation as in *Porricondyla*. Separated from the two preceding genera by the antennæ not being greatly produced in both sexes. Europe, North America.

Genus LOPEZIELLA Tav. 1908, type *L. combreti* Tav.

Antennal segments 14, the fifth with a length about four times its diameter, distinctly constricted near the basal and distal thirds and ornamented with sparse whorls of short setæ. Ovipositor short, conical; venation as in *Porricondyla*. Separated from the three preceding genera by the triarticulate palpi. Africa.

Genus LOPESIA Tav. 1908, type *L. parinarii* Tav.

Venation as in *Porricondyla*. Antennal segments 14, binodose, easily recognized by the long loops of the circumfili like those in the Itonidiniæ. South America.

Genus ALLODIPLOSIS Kieff. & Jörg. 1910, type *A. crassus*
Kieff. & Jörg.

Antennal segments 14, binodose, the circumfili scarcely reaching the following node, easily separated from the preceding by the uniaarticulate palpi. South America.

Genus HOLONEURUS Kieff. 1894, type *Holoneura cincta* Kieff.

Venation as in *Porricondyla* except that the fifth vein is simple, the sixth wanting. Antennal segments 12 to over 20. Synonym: *Holoneura* Kieff. Europe, North America.

Tribe LASIOPTERARIÆ.

Members of this and the following tribes have no distinct cross-vein uniting the third vein with subcosta. In this tribe costa is thickly scaled and the third vein usually very close to the anterior margin of the wing. Antennal segments sessile, cylindric, not produced. Claws almost invariably toothed. Comprises a large number of usually brown and white marked species living for the most part in stem galls on woody or herbaceous plants or in the peculiar leaf blister galls.

Genus STEFANIELLA Kieff. 1897, type *S. atriplicis* Kieff.

Subcosta and third vein very near costa; the third and fourth antennal segments not coalescing, separated by at least a rudimentary constriction. Palpi biarticulate, the claws toothed or simple. Europe.

Genus APLONYX Perez 1908, type *A. chenopodii* Perez.

Separated from the preceding genus by the uniarticulate palpi and from the following genus by the mouth-parts not being produced and the simple claws. Europe.

Genus BALDRATIA Kieff. 1897, type *B. salicorniæ* Kieff.

Allied to the two preceding genera though easily separated therefrom by the uniarticulate palpi and the distinctly produced mouth-parts. Europe.

Genus LASIOPTERA Meign. 1818, type *Cecidomyia albipennis* Meign.

Venation as in the preceding genera, the third and fourth antennal segments coalescing or closely fused, the pulvilli well developed; palpi tri- or quadriarticulate; three long veins, the fifth forked some distance from its base. Synonym: *Diomyza* Westw. Europe, Africa, North and South America, Australia.

Genus NEOLASIOPTERA Felt 1908, type *Lasioptera vitinea* Felt.

Separated from the preceding genus by the four simple, long veins, the sixth arising from the base of the wing. North America.

Genus MEUNIERIELLA Kieff. 1905, type *M. dalechampiæ* Rübs.

This genus appears to be closely related to, if not identical with *Lasioptera* Meign. Synonym: *Meuneria* Rübs., not Kieffer. South America.

Genus ASTEROMYIA Felt 1910, type *Lasioptera carbonifera* Felt.

Venational and antennal characters similar to those of *Lasioptera*. Separated therefrom by the uni- or biarticulate palpi. North America.

Genus CLINORHYNCHA H. Lw. 1850, type *Lasioptera chrysanthemi* H. Lw.

Venation nearly as in *Lasioptera*; antennal segments 10-13, easily recognized by the greatly produced mouth-parts and the prolonged thorax. Europe, North America.

Genus ACORHYNCHUS Rond. 1846, type *A. longicollis* Rond.

This genus possesses all the characters of the preceding except

that the fifth vein has been described as simple. *Clinorhyncha* H. Lw. is probably a synonym. Europe.

Genus CAMPTONEUROMYIA Felt 1908, type *Dasyneura virginica* Felt.

The third vein widely separated from costa and strongly arched, it and the body not very thickly clothed with scales; antennal segments sessile in both sexes. North America.

Genus TROTTERIA Kieff. 1892, type *Lasioptera obtusa* H. Lw.

Third vein widely separated from costa, it and the body thickly clothed with shining scales; easily distinguished from other members of the tribe by the produced first antennal segment, the latter with a length about three times its diameter. Synonym: *Choristoneura* Rübs. 1892, preoccupied. Europe, North America.

Tribe *DASYNEURIARIÆ*.

A large group, the members being easily separated from the preceding tribe by the almost uniform absence of scales on costa and the third vein always well separated therefrom. The antennæ are cylindric, never binodose in the male, while the claws are invariably toothed; antennal segments from 12 to over 20; palpi uni- to quadri-articulate. Many of the species produce stem or bud galls.

Genus RHABDOPHAGA Westw. 1847, type *Cecidomyia viminalis* Westw.

Usually large forms with 14 or more antennal segments, the flagellate ones of the male stemmed. Separated from the following genus by the third vein being straight, usually tapering distally and uniting with costa very near or at the wing apex. Synonyms: *Dichelomyia* Rübs. 1892, in part; *Bertieria* Kieff. 1896, in part. Europe, North America.

Genus DASYNEURA Rond. 1846, type *D. luteofusca* Rond.

Distinguished from the preceding by the third vein being straight or curved anteriorly, tapering but little distally and uniting with costa distinctly before the apex of the wing. The wings are hyaline, the membrane not scaled, the female ovipositor long, sometimes longer than the body and the circumfili not greatly produced. Synonyms: *Perrisia* Rond. 1846; *Dichelomyia* Rübs. 1892, in part; *Bertieria* Kieff. 1896, in part, and *Neocerata* Coq. 1900. Europe, North America, Australia.

Genus LASIOPTERYX Westw. 1840, type *L. obfuscata* Meign.

Wings fuscous, the membrane scaled, the female ovipositor short, the circumfli strongly produced in the male much as in *Bremia*. Synonyms: *Diomyza* Shin. 1864; *Lepidomyia* Kieff. 1894; *Ledomyia* Kieff. 1895. Europe, North America.

Genus ARNOLDIA Kieff. 1895, type *Cecidomyia quercus* Binn.

Antennal segments 12 to 13, sessile; palpi quadriarticulate. Separated from the following genus by the sessile antennal segments and nearly straight third vein uniting with costa near the apex. Synonym: *Janetia* Kieff. 1896. Europe.

Genus NEUROMYIA, new genus, type *Arnoldia minor* Felt.

Antennal segments 11 or 12, the fifth of the male with a stem three fourths the length of the cylindric basal enlargement. Distinguished from the preceding genus by the third vein being strongly curved and uniting with costa at the distal fourth and the stemmed antennal segments in the male. North America.

Genus MACROLABIS Kieff. 1892, type *Cecidomyia pilosella* Binn.

Antennal segments 11 to 12, rarely 13-14, sessile or subsessile; palpi quinquearticulate; ovipositor as long as the body. Separated from the two preceding genera by the very stout basal clasp segment of the male. Europe.

Genus DRYOMYIA Kieff. 1897, type *D. circinans* Giraud.

Wing venation nearly as in the three preceding genera. Antennal segments 18-20; palpi triarticulate. Europe, North America.

Genus CYSTIPHORA Kieff. 1892, type *C. pilosella* Kieff.

Antennæ with 13 or 14 antennal segments, the fifth of the male with a stem as long as the cylindric basal enlargement. Female antennal segments sessile or subsessile; palpi triarticulate; ovipositor basally stout, retractile, the distal portion chitinized, broad basally, acute apically. Europe, North America.

Genus RHIZOMYIA Kieff. 1897, type *R. perplexa* Kieff.

Antennal segments 12, the fifth of the male with a stem as long as the cylindric basal enlargement, those of the female subsessile; palpi triarticulate; terminal clasp segment of the male very long, slender, the ovipositor short, lobed. Synonym: *Coccomorpha* Rübs. 1899. Europe, North America.

Genus DIARTHROMYIA Felt 1908, type *D. artemisiæ* Felt.

Antennal segments 18, the flagellate ones stemmed in both sexes; palpi biarticulate; claws minutely unidentate. Separated from the preceding genera by the greatly reduced palpi and from the following genus by the more numerous antennal segments. North America.

Genus COCCIDOMYIA, new genus, type *C. pennsylvanica*, new species.*

Male.—Length, 1.25 mm. Antennæ with 12 segments, the third and fourth fused, the fifth with a stem three fourths the length of the subcylindric basal enlargement. Palpi: first segment short, stout, the second a little longer, narrowly oval. Mesonotum dark brown. Scutellum and post-scutellum fuscous yellowish. Abdomen dark brown, rather thickly setose. Genitalia fuscous yellowish. Wings: subcosta uniting with costa at the basal third, the third vein just before the apex; the fifth indistinct distally, forks near its apex and joins the posterior margin just beyond the basal half, its branch near the basal third. Halteres and legs probably fuscous yellowish; claws unidentate.

Female.—Length, 1.5 mm. Antennal segments 12, the fifth with a stem one third the length of the subcylindric basal enlargement. Palpi biarticulate. Mesonotum dark brown. Scutellum and post-scutellum fuscous yellowish. Abdomen reddish brown, sparsely setose; ovipositor short.

Reared from young *Lecanium* scales.

Type Cecid 938, N. Y. State Museum.

Antennal segments 12, the flagellate ones in both sexes stemmed; palpal segments biarticulate, the third vein uniting with costa at or very near the apex. North America.

Genus GUAREPHILA Tav. 1909, type *G. albida* Tav.

Allied to *Diarthronomyia* Felt, from which it is separated by the uniarticulate palps and the trifid claws. Antennal segments 17 or 18, the flagellate ones subsessile. Africa.

Tribe OLIGOTROPHIARÆ.

The third vein in this tribe is well separated from the anterior margin, the antennal segments are short, cylindric, usually stemmed in the male and the claws are simple, this latter serving to differentiate the species from the preceding tribe.

Genus PHYTOPHAGA Rond. 1840, type *Cecidomyia destructor* Say.

Antennal segments 12 to over 20, the flagellate ones stemmed in the male, usually sessile in the female; palpi quadriarticulate. Distinguished from the following by the third vein uniting with costa at the apex of the wing. Synonyms: *Mayetia* Kieff. 1896, *Mayetiola* Kieff. 1896, *Poomyia* Rübs. 1910. Europe, North America.

* *Coccidomyia pennsylvanica*, new species.

Genus MIKIOLA Kieff. 1896, type *Cecidomyia fagi* Hart.

Antennal segments 22 to 24, the flagellate ones stemmed in the male, subsessile in the female; palpi quadriarticulate. Venation similar to that of *Phytophaga rigida*, closely related to, if not identical with *Phytophaga*. Europe.

Genus JANETIELLA Kieff. 1897, type *J. thymi* Kieff.

The third vein unites with costa well before the apex of the wing, a character separating it from the preceding genus. Antennal segments 12 to 16, the flagellate ones stemmed in the male, subsessile in the female; palpi quadriarticulate. Europe, North America, South America.

Genus OLIGOTROPHUS Latr. 1805, type *Tipula juniperina* Linn.

A large form with 20 antennal segments, the flagellate ones stemmed in the male, sessile in the female; palpi probably quadriarticulate, though Kieffer states that these organs are triarticulate, a condition true of the American forms provisionally referred to this genus. Specimens of this type species in the British Museum, identified by Winnertz, have the general appearance of *Phytophaga rigida*. Europe, North America, South America.

Genus LYCIOMYIA Kieff. & Jörg. 1910, type *L. gracilis* Kieff. & Jörg.

Antennæ of female with 17 segments, remarkable because of the five or six slightly looped circumfili on the flagellate segments, the fifth cylindric, with a length about $2\frac{1}{2}$ times its diameter and with a short stem. Palpi triarticulate. South America.

Genus ULEIA Rübs. 1905, type *U. clusiae* Rübs.

Antennal segments 22 to 25, the flagellate ones with a short stem. Closely related to the preceding genera and separated therefrom by the bi- or triarticulate palpi and the thickly scaled legs. South America.

Genus RHOPALOMYIA Rübs. 1892, type *Oligotrophus tanaceticola* Karsch.

Antennal segments 12 to over 20, the flagellate ones stemmed in the male, usually subsessile in the female; palpi uni- or biarticulate; terminal clasp segment of the male short, stout, fusiform; ovipositor of the female fleshy, at least moderately long, not enlarged; terminal lobes rather short and stout. Europe, North America, South America.

Genus PSECTROSEMA Kieff. 1904, type *P. tamaricis* D. Stef.

With the characters of *Rhopalomyia* except that the lateral lobes of the pulvilli are longer than the median one. Europe.

Genus SACKENOMYIA Felt 1908, type *Oligotrophus acerifolius* Felt.

Antennal segments 12 to over 20, the flagellate ones subsessile or sessile; palpi biarticulate. Distinguished from allied forms by the short ovipositor of the female, the terminal portion chitinous, cultri-form. North America.

Genus WALSHOMYIA Felt 1908, type *W. juniperina* Felt.

Antennal segments 18 or 19, the flagellate ones of the male stemmed; palpi uniarticulate; ovipositor of the female short, triangular, the terminal clasp segment of the male distinctly produced, not fusiform. North America.

Tribe ASPHONDYLIARIÆ.

Large, mostly heavy bodied insects with long, cylindric, sessile antennal segments, the latter without whorls of long hairs; claws simple. One group of genera is peculiar for the most part because of the great reduction in the palpal segments and the highly specialized, aciculate ovipositor. The other group shows no reduction in the palpi but a high degree of specialization in the circumfli and relatively small modification of the ovipositor. The species live mostly in bud or leaf galls.

Genus ZALEPIDOTA Rübs. 1908, type *Z. piperis* Rübs.

Palpi uniarticulate, legs and wings thickly scaled; the third vein unites with costa at the apex of the wing, the subcostal cell being remarkably broad and with a rudimentary vein spur at its base. South America.

Genus BRUGGMANNIELLA Tav. 1909, type *B. braziliensis* Tav.

The subcostal cell is opaque, not remarkably broad and there is no rudimentary vein spur at its base. The basal portion of the ovipositor is dilated apically. South America.

Genus ASPHONDYLIA H. Lw. 1850, type *Cecidomyia sarothamni* H. Lw.

Antennal segments 14, the flagellate sessile, cylindric, the distal ones in the female reduced; palpi uni- to triarticulate; subcostal cell not opaque; terminal clasp segment of the male genitalia bidentate;

ovipositor of the female with the distal portion aciculate. Synonyms: *Phyllophaga* Rond. 1856; *Cylindrocera* Lioy 1863. Europe, Africa, North America, South America, Australia.

Genus DAPHNEPHILA Kieff. 1905, type *D. haasi* Kieff.

Fourteen antennal segments as in *Asphondylia*, those of the male successively shorter distally, the apical segment in the female greatly reduced; palpi tri- or quadriarticulate; terminal clasp segment of male bidentate; ovipositor of the female short, thick, composed of two conic, apposed plates, apparently intermediate in structure between *Asphondylia* and *Schizomyia*. Asia.

Genus ACROËCTASIS Rübs. 1910, type *A. maura* Rübs.

Separated from the preceding genera by the third vein uniting with costa at the distal fourth; antennal segments 12, the flagellate ones cylindric, with relatively high circumfili; palpi triarticulate. Europe.

Genus SCHIZOMYIA Kieff. 1889, type *S. galiorum* Kieff.

Antennal segments 14, sessile or subsessile, the flagellate ones in the male with remarkably stout and elevated circumfili; palpi quadriarticulate, the basal clasp segment lobed distally; antennal segments in the female much as in *Asphondylia*, the apical portion of the ovipositor aciculate. Synonym: *Kiefferia* Mik 1895. Europe, North America, Africa.

Genus POLYSTEPHA Kieff. 1897, type *P. quercus* Kieff.

Antennal segments 14, subsessile, cylindric, the flagellate ones with numerous tortuous, transverse, low circumfili; palpi quadriarticulate; terminal clasp segment of the male with a chitinous spur and a series of small spines. Europe.

Genus CINCTICORNIA Felt 1908, type *Asphondylia transversa* Felt.

Closely allied to the preceding, the male being distinguished therefrom by the transversely and evenly serrate spur of the terminal clasp segment and the low, regular circumfili. Female with 14 antennal segments, the flagellate ones with two to six, transverse, anastomosing circumfili; ovipositor stout and tapering to subacute, minute lobes. North America.

Genus ULEELLA Rübs. 1908, type *U. dalbergiae* Rübs.

Erected for an Itonidid larva with a remarkable tail-like, elongate

anal segment and a circular, oval or angulate anal orifice with its long axis transverse or at right angles to the median line; ventral surface with disk-shaped pads or folds. South America.

Tribe *ITONIDINARIÆ*.

The more characteristic members of this tribe are easily distinguished by the long, thickly haired antennæ with 14, rarely 12 or more segments, the flagellate segments of the male usually binodose and with two or three circumfili, the latter usually with greatly produced loops; palpi uni- to quadriarticulate; claws simple or toothed. A very large tribe, including many diverse forms.

Group BIFILI.

This group is easily recognized by the presence of but two circumfili on the flagellate antennal segments of the male, the nodes being equal or nearly so.

Genus AMETRODIPLOSION Rübs. 1910, type *Clinodiplosis thalictricola* Rübs.

Separated from all other genera in the bifili group by the proximal antennal segments of the male being binodose, the distal segments with but one node. Europe.

Genus LOBOPTEROMYIA Felt 1908, type *Contarinia flicis* Felt.

Antennal segments 14, the basal portion of the stem on the flagellate segments of the male rarely with a length equal to its diameter; palpi quadriarticulate, easily recognized by the wings with the posterior area greatly produced and broadly rounded. North America.

Genus EROSOMYIA, new genus, type *E. mangifera*, new species.*

Male.—Length, 0.8 mm. Antennæ about twice the length of the body, thickly haired, light yellowish brown; 14 segments, the fifth having the basal portion of the stem with a length about three fourths its diameter, the distal part with a length three and one half times its diameter, the enlargements subglobose, each with a sparse subbasal whorl of setæ and a well developed subapical circumfilum, the loops of the latter extending nearly to the middle of the following enlargement; terminal segment with the distal enlargement ovate and apically with a short, stout, tapering process. Palpi: first segment irregularly subquadrate, the second a little longer, stouter, the third one half longer than the second, more slender, the fourth a little longer and more slender than the third. Mesonotum reddish brown, the yellowish submedian lines sparsely haired. Scutellum and post-scutellum yellowish. Abdomen a nearly uniform yellowish. Wings hyaline, broad, the anal angle somewhat produced. Costa

* *Erosomyia mangifera*, new species.

light brown, the stout third vein uniting with the margin just beyond the apex, the fifth vein forked. Halteres yellowish transparent. Legs mostly a yellowish straw, the tarsi somewhat darker; claws slender, strongly curved, with a long tooth basally; pulvilli small, about one third the length of the claws. Genitalia: basal clasp segment slender, strongly curved, obtusely lobed basally; terminal clasp segment rather stout, tapering; dorsal plate broad, broadly and roundly emarginate; ventral plate rather long, broad, broadly emarginate, both sparsely setose; style long, slender, tapering.

Female.—Length, 1 mm. Antennæ nearly as long as the body, sparsely haired, dark brown; 14 segments, the fifth with a stem one third the length of the cylindric basal enlargement, which latter has a length about twice its diameter and sparse subbasal and subapical whorls of setæ; terminal segment slightly reduced, with a short, obtuse process apically; pulvilli nearly as long as the strongly toothed claws. Ovipositor stout, with a length about one half that of the abdomen, the terminal lobes broadly ovate and thickly setose. Other characters nearly as in the male.

Exuvie.—Length, 0.5 mm., stout, whitish; thoracic horns long, stout, tapering; antennal cases extending to the second abdominal segment, the wing cases to the fourth abdominal segment and the leg cases almost to the apex of the body; skin apparently smooth.

Larva.—Length, 3 mm., whitish, stout, the extremities rounded; breast-bone bidentate, the teeth large, triangular, the shaft transparent.

Reared by W. H. Pattersons, St. Vincent, W. I., from presumably blister galls on very young leaves of *Mangifera indica*.

Type Cecid 22117, N. Y. State Museum.

Allied to *Loboptyromyia* Felt by the broad wings with the somewhat produced anal angle and the short basal portion of the stem in the flagellate antennal segments of the male. Easily recognized by the distinctly toothed claws, a character rarely appearing in the group bifili. South America.

Genus THURAUIA Rübs. 1899, type *T. aquatica* Rübs.

Easily distinguished from the preceding by the long antennal stems, the basal one of the fifth antennal segment with a length three times its diameter. The wings are greatly produced, narrow, with a length at least three times the width. The female has the distal portion of the ovipositor greatly produced and chitinized. Europe.

Genus ENDAPHIS Kieff. 1896, type *E. perfidus* Kieff.

Allied to *Contarinia*, though easily separated therefrom by the narrow scales on the wing membrane and the tooth-like dorsal prolongation of the first antennal segment. Ovipositor of the female short, the lobes long, slender. Europe, North America, South America.

Genus CONTARINIA Rond. 1860, type *Tipula loti* DeG.

Separated from the preceding by the absence of scales on the wings and the lack of a dorsal tooth on the first antennal segment. Costa is interrupted at its union with the third vein. The lobes of the dorsal plate taper strongly and are subacute. The ovipositor is long and filiform. Synonyms: *Eudiplosis* Kieff. 1894; *Stictodiplosis* Kieff. 1894. Europe, Africa, North America.

Genus SYNDIPLOSIS Rübs. 1910, type *S. winnertzi* Rübs.

Separated from *Contarinia* by the third antennal segment not being abnormally prolonged and the flagellate segments being successively shorter distally. The pulvilli are as long or longer than the claws. Europe.

Genus THECODIPLOSIS Kieff. 1895, type *Cecidomyia brachyntera* Schw.

Separated from *Contarinia* by costa not being interrupted at its union with the third vein; the lobes of the ventral plate hardly taper and are rounded apically. The ovipositor is rather stout. Europe, North America.

Genus STEPHODIPLOSIS Tav. 1908, type *S. lanneæ* Tav.

Distinguished at once from all other bifili by the 12 antennal segments; palpi quadriarticulate, the third vein uniting with costa well beyond the apex; dorsal and ventral plates bilobed. Ovipositor filiform, very long. Africa.

Genus DENTIFIBULA Felt 1908, type *Contarinia viburni* Felt.

Easily distinguished from the preceding genera by the triarticulate palpi and the basal clasp segment with its conspicuous triangular process apically, the terminal clasp segment being therefore subapical; claws simple, strongly curved, about as long as the pulvilli. North America.

Genus ZEUXIDIPLOSIS Kieff. 1904, type *Z. giardiana* Kieff.

Palpi triarticulate, basal clasp segment with no distinct process apically; pulvilli longer than the stout, evenly curved claws, the third and fourth antennal segments nearly free, the basal and distal stems of the fifth segment with a length twice and thrice their diameters, respectively; ovipositor short. Europe.

Genus STENODIPLOSIS Reut. 1895, type *S. geniculati* Reut.

Distinguished from the preceding genus by the pulvilli being

shorter than the slender claws, which latter are strongly bent at the apical fourth; basal and distal stems of the fifth antennal segment with a length one half and twice their diameters, respectively. Wings remarkably long and slender. Europe.

Genus TRICONTARINIA Kieff. 1910, type *T. ciliatipennis* Kieff.

Wings, antennæ and genitalia as in Contarinia; palpi triarticulate. Location provisional. Asia.

Genus MYRICOMYIA Kieff. 1900, type *Diplosis mediterranea* F. Lw.

Separated from the four preceding genera by the biarticulate palpi; basal and distal stems of the fifth antennal segment with a length one and one half and two and one half times their diameters, respectively; claws simple, strongly curved, the pulvilli twice the length of the claws; ovipositor short. Europe.

Group TRIFILI.

This group is easily recognized by the presence of three usually well-developed circumfili on the flagellate antennal segments of the male, the nodes generally being unequal and in some extreme forms the distal enlargement is almost divided.

Genus STOMATOSEMA Kieff. 1904, type *S. nemorum* Kieff.

Antennal segments 15, the fifth with a stem one fourth the length of the cylindric basal enlargement; palpi quadriarticulate; claws unidentate, strongly curved, the pulvilli small, ovipositor short. Distinguished from other forms by the greatly produced mouth-parts, the latter with a length one half that of the head, tapering. Europe.

Genus RESSELIELLA Seitn. 1906, type *R. piceæ* Seitn.

Distinguished from the preceding by the mouth-parts not being produced. The lobes of the dorsal and ventral plate of the male are truncate, the ovipositor is short with one long, narrow, oval lobe. Europe.

Genus GEODIPLOSIS Kieff. 1909, type *G. ranunculi* Kieff.

Separated from the American species provisionally referred to *Dicrodiplosis* Kieff. by the triangular lobes of the dorsal plate and the linear parallel lobes of the ventral plate. The ovipositor is rather short. Europe.

Genus CALODIPLOSIS Tav. 1908, type *C. parinari* Tav.

Allied to *Dicrodiplosis* Kieff. and separated from *Geodiplosis*

Kieff. by the lobes of the ventral plate being short and broadly rounded; the ovipositor is short, the pulvilli about half the length of the claws. Africa.

Genus YOUNGOMYIA Felt 1908, type *Dicrodiplosis podophyllæ* Felt.

Readily separated from the four preceding and the three following genera by the slender terminal clasp segment being distinctly longer than the basal clasp segment. The flagellate antennal segments of the male are trinodose, the dorsal plate is almost divided and the ventral plate roundly truncate. North America.

Genus DICRODIPLOSIS Kieff. 1895, type *D. fasciata* Kieff.

The type species has the ovipositor short, the lobes with the margin pectinate. The American species provisionally referred to this genus have the ventral plate usually long. Europe, North America.

Genus DICHODIPLOSIS Rübs. 1910, type *D. langeni* Rübs.

Distinguished from the preceding by the greatly produced ovipositor; ventral plate narrow, not elongate, rounded apically, the claws bent at nearly right angles, the tooth scarcely noticeable and nearly parallel with the main part of the claw. Europe.

Genus THOMASIA Rübs. 1910, type *Clinodiplosis oculiperda* Rübs.

Separated from the preceding genus by the deeply emarginate, not prolonged ventral plate, the tooth of the claws strong and erect. Europe.

Genus BREMIA Rond. 1860, type *Diplosis decorata* H. Lw.

Distinguished from the preceding genera by the anterior claws being toothed, the posterior simple and easily separated from most of the other Itonidiniæ by the greatly produced setæ and loops of the circumfili on the ventral portion of the flagellate antennal segments. Easily separated from the following genus by the rudimentary middle circumfilum, the flagellate segments apparently with but two circumfili. Europe, North America.

Genus APHIDOLETES Kieff. 1904, type *A. abietis* Kieff. by present designation.

Easily distinguished from the preceding form by the three well-developed circumfili on the flagellate antennal segments of the male. Europe, North America, Australia.

Genus LOBODIPLOSIS Felt 1908, type *Mycodiplosis acerina* Felt.

Antennal segments 14, the flagellate more or less trinodose, the circumfili and setæ nearly equal. Palpi quadriarticulate; basal clasp segment with a distinct lobe apically, the terminal clasp segment therefore subapical. North America.

Genus ANTICHIRA Rübs. 1910, type *A. striata* Rübs.

Allied to the preceding genus, the basal clasp segment with a large, hyaline lobe at the internal apical angle. Europe.

Genus COQUILLETOMYIA Felt 1908, type *Mycodiplosis lobata* Felt.

Distinguished from the two preceding genera by the setose basal lobe on the basal clasp segment and remarkable because of the strongly chitinized ventral plate or harpes. North America.

Genus FELTIELLA Rübs. 1910, type *F. tetranychii* Rübs.

Allied to the preceding and presumably separable therefrom by the ventral plate and harpes being as in *Lestodiplosis* Kieff. Europe.

Genus KARSCHOMYIA Felt 1908, type *Mycodiplosis viburni* Felt.

Separated from the four preceding genera by the absence of a distinct lobe on the basal clasp segment; flagellate antennal segments of the male trinodose; terminal clasp segment subfusiform, greatly dilated and much shorter than the basal clasp segment. North America.

Genus MYCODIPLOSIS Rübs. 1895, type *Diplosis coniohaga* Winn.

Antennal segments 14, binodose; palpi quadriarticulate; terminal clasp segment not abnormally produced or subfusiform; ventral plate not produced, the lobes of the dorsal plate not divided, cleft or triangularly emarginate; ovipositor short. Europe, North America.

Genus CLINODIPLOSIS Kieff.* 1894, type *Diplosis cilicrus* Kieff.

Placed here by Rübsaamen on account of the dentate anterior claws. Separated from *Mycodiplosis* by the greatly elongate, emarginate ventral plate. The dorsal plate is deeply cleft and triangularly emarginate. Europe.

Genus DIADIPLOSIS new genus, type *D. cocci* new species.

The unidentate anterior claws and binodose antennæ of the male, with the three circumfili show a relation, to *Mycodiplosis* Rübs. and its allies from which it is easily separated by the triarticulate palpi.

* Species previously referred to this genus belong to the recently erected *Parallelodiplosis* Rübs.

Diadiplosis cocci, new species.

Male.—Length 1 mm. Antennæ one half longer than the body, thickly haired, light brown; 14 segments, the fifth having the basal portion of the stem with a length one half greater than its diameter, the distal part with a length twice its diameter, the basal enlargement subglobose, with a sparse sub-basal whorl of stout setæ, the circumflum with stout loops extending to the base of the distal enlargement, which latter is subcylindric, has a length one half greater than its diameter, a scattering whorl of stout setæ and basal and apical circumfli, the loops of the latter extending to the apex of the segment; terminal segment produced, the basal portion of the stem with a length three times its diameter, the distal enlargement subcylindric, with a length twice its diameter and a long, fingerlike process apically. Palpi; first segment very short subquadrate, with a length three fourths its diameter, the second quadrate, with a length one half greater than its diameter, the third slender, about twice as long as the second. Face yellow. Mesonotum dark red, the submedian lines sparsely haired. Scutellum dark red, postscutellum reddish. Abdomen dark red, the genitalia fuscous. Wings hyaline, costa dark brown, subcosta uniting therewith near the basal half, the nearly straight third vein at the apex of the wing, the fifth joining the posterior margin at the distal fourth, its branch near the basal half. Halteres reddish transparent, fuscous apically. Coxæ orange yellow; femora fuscous yellowish; tibiæ darker; tarsi nearly brown; claws stout, strongly curved basally, the anterior unidentate, the pulvilli about half the length of the claws. Genitalia: basal clasp segment short, greatly swollen, with a length about one fourth greater than its diameter; terminal clasp segment short, slender, apically with a stout claw; dorsal plate short, deeply and triangularly emarginate, the lobes tapering, broadly rounded and sparsely setose; ventral plate short, broad, broadly and roundly emarginate, sparsely setose; style short, stout, narrowly rounded apically.

Female.—Length 1 mm. Antennæ extending about to the fifth abdominal segment, sparsely haired, light brown; 14 segments, the fifth with a stem about one fourth the cylindric basal enlargement, which latter has a length two and one half times its diameter, a sparse subbasal whorl of stout setæ and a scattering subapical band of shorter, curved setæ; terminal segment slightly produced, with a length three times its diameter and a short, knob-like process apically. Palpi: first segment short, quadrate, with a length three fourths its diameter, the second narrowly oval, with a length twice its diameter, the third a little longer than the second, more slender. Color characters nearly as in the male, except that the abdomen is deep red. Ovipositor short, the terminal lobes with a length twice the diameter, broadly rounded apically and thickly setose.

Pupa.—Length 1.5 mm., stout, yellowish red, darker apically. The antennal sheaths extend to the base of the abdomen, the wing cases to the third abdominal segment, those of the legs nearly to the fifth.

Larva.—Length 1.75 mm., rather stout, pale orange, the segmentation deep. Head moderately long, broad, tapering, the antennæ slender, uniarticulate, with a length fully four times their diameter; breast-bone small, the shaft short,

stout, with a length about three times its width, distinctly expanded at both extremities, the anterior having at the widely separated lateral angles an indistinct, broadly rounded tooth. Skin rather coarsely shagreened; posterior extremity narrowly rounded and broadly lobed.

Type Cecid. 22128, N. Y. State Museum.

Reared by William H. Pattersons of the Agricultural School, St. Vincent, W. I., from larvæ preying upon the eggs of *Saissetia nigra* Nietn., frequently abundant upon stems of Sea Island cotton. South America.

Genus CALAMODIPLOSION Rübs. 1910, type *Clinodiplosis coriscii* Kieff.

Provisionally proposed because of the tubular ventral plate, assuming Kieffer's illustration to be accurate. Europe.

Genus CARYOMYIA Felt 1909, type *Cecidomyia tubicola* O. S.

Antennal segments 14, cylindric or binodose, the circumfili with short loops. Palpi tri- or quadriarticulate. Claws simple. Male much as in *Hormomyia*. Ovipositor short, triangular, the lobes minute. North America.

Genus MASSALONGIA Kieff. 1897, type *Hormomyia rubra* Kieff.

Easily recognized by all the flagellate antennal segments in the male being cylindric, stemmed and distinguished from the preceding genus by the biarticulate palpi; ovipositor short, stout. Europe.

Genus PRODIPLOSION Felt 1908, type *Cecidomyia floricola* Felt.

Basal antennal segments binodose, the distal, tenth to fourteenth, cylindric, stemmed; palpi quadriarticulate. North America.

Genus CENTRODIPLOSION Kieff. & Jörg. 1910, type *C. crassipes* Kieff. & Jörg.

Distinguished from the preceding by the third antennal segment in the male being cylindric, the others binodose; ovipositor aciculate. South America.

Genus MONODIPLOSION Rübs. 1910, type *Diplosis liebeli* Kieff.

Flagellate antennal segments uninodose, ventral plate elongate, emarginate. Europe.

Genus GEISENHEYNERIA Rübs. 1910, type *G. rhenana* Rübs.

Separated from the preceding by the ventral plate being scarcely longer than the dorsal plate, not much narrowed, deeply incised apically. Europe.

Genus ARTHROCNO DAX Rübs. 1895, type *A. vitis* Rübs.

Antennal segments 14, the flagellate binodose; palpi quadriarticulate; ovipositor short, easily recognized by the third vein uniting with costa well before the apex. Europe, North America.

Genus MICRODIPLOSIS Tav. 1908, type *M. zambezensis* Tav.

Venation nearly as in the preceding genus except for the simple fifth vein; flagellate antennal segments binodose; palpi quadriarticulate; ventral plate rather long, greatly expanded subapically, broadly and roundly emarginate; ovipositor short. Africa.

Genus HORMOMYIA H. Lw. 1850, type *Cecidomyia crassipes* H. Lw.

Antennal segments 14 to over 20, the flagellate, binodose in the male, the circumfili with short loops. Palpi uni- to triarticulate. Large species, easily recognized by the mesonotum being greatly produced over the head. Europe, North America.

Genus PUTONIELLA Kieff. 1896, type *Diplosis marsupialis* F. Lw.

Flagellate antennal segments of the male nearly trinodose; circumfili only moderately developed; palpi triarticulate, the pulvilli one fourth longer than the simple claws; ovipositor short, broadly rounded. Europe.

Genus ATRICHOSEMA Kieff. 1904, type *A. aceris* Kieff.

Antennal segments 14, the flagellate subsessile; palpi triarticulate; ovipositor short; pulvilli longer than the claws. Provisionally associated with the preceding. Europe.

Genus PSEUDHORMOMYIA Kieff. 1897, type *P. granifex* Kieff.

Separated from *Hormomyia* by the mesonotum not being produced over the head. Antennæ in the male characteristic of the typical *Hormomyia*. Flagellate antennal segments of the female with three well developed circumfili; palpi tri- or possibly quadriarticulate; ovipositor long. Europe.

Genus AMAUROSIPHON Rübs. 1910.

Erected without a description or reference thereto of a species and separated from the preceding genus by the terminal clasp segment of the male being thickened, club-shaped and the third and fourth antennal segments fused. It may be cogenetic with the preceding. Europe.

Genus LOEWIOLA Kieff. 1896, type *Diplosis centaureæ* F. Lw.

Separated from the two preceding genera by the ventral plate, which is as long as the dorsal plate, being deeply bilobed and the ovipositor not longer than the body. The circumfili are slightly produced, the palpi triarticulate, the terminal segment being greatly produced; pulvilli rudimentary. Europe.

Genus HAPLODIPLOSIS Rübs. 1910, type *Diplosis equestris* Wagn.

Separated from the preceding genus by the ventral plate being narrowly truncate, not emarginate. Europe.

Genus MONARTHROPALPUS Rübs. 1892, type *Diplosis buxi* Lab.

The binodose antennal segments have short, stout circumfili similar to those of *Hormomyia*; the flagellate antennal segments of the female with two rather high circumfili; palpi uniarticulate, the pulvilli not longer than the claws, the ovipositor terminating in a long, stout, chitinous spine. Europe, North America.

Genus FRAUENFELDIELLA Rübs. 1905, type *F. coussaopæ* Rübs.

Separated from the preceding genus by the ovipositor having two large dorsal lobes apically, the female antennal segments with "worm-like" loops as in *Asphondylia* (presumably like those of the male); palpi uniarticulate. South America.

Genus BRAUERIELLA Kieff. 1896, type *Diplosis phillyreæ* F. Lw.

Apparently closely related to *Hormomyia*, since the circumfili are nearly equally developed in both sexes; second node of the fifth antennal segment in the male with a length two and one half times its diameter; palpi biarticulate; pulvilli longer than the claws, ovipositor short, lobed. Europe.

Genus DICHRONA Rübs. 1899, type *D. gallarum* Rübs.

Separated from the preceding genus by the second node of the fifth antennal segment in the male having a length one and three fourths times its diameter, the pulvilli being nearly as long as the claws. Probably cogenetic with the preceding. Europe.

Genus ORSEOLIA Kieff. and C. Massl. 1902, type *O. cynodontis* Kieff. and C. Massl.

Distinguished from the two preceding genera by the fifth antennal segment of the female having circumfili less developed, while those in the male are more strongly developed; palpi biarticulate or quad-

riarticulate, the distal segment greatly produced or strongly constricted. Europe, Asia.

Genus HYPERDIPLOSIS Felt 1908, type *Cecidomyia lobata* Felt.

Antennæ binodose, the circumfili with short, very indistinct loops; palpi quadriarticulate, the claws bent at right angles or nearly so; ventral plate long, deeply and roundly emarginate, the dorsal plate dilated and with strongly produced angles. North America.

Genus GIARDOMYIA Felt 1908, type *Cecidomyia photophila* Felt.

The binodose antennal segments of the male with distinct circumfili, the loops extending to the apex of the segment; the claws bent almost at right angles and usually somewhat enlarged subapically; ventral plate very long, slender, roundly emarginate, the dorsal plate not greatly enlarged. North America.

Genus OCTODIPLOSIS Giard 1894, type *Diplosis glyceriæ* Rübs.

Distinguished from the preceding by the ventral plate being rather short, deeply and triangularly incised, the dorsal plate broad, deeply and broadly incised. Europe.

Genus ISODIPLOSIS Rübs. 1910, type *I. involuta* Rübs.

Separated from the preceding genera by the ventral plate being deeply cleft and the thin, smooth terminal clasp segment. Europe.

Genus METADIPLOSIS Felt 1908, type *M. spinosa* Felt.

Separated from the preceding genera by the claws not being bent at right angles and easily recognized by the short, stout basal clasp segment having a conspicuous triangular, chitinous process at the internal angle, while the terminal clasp segment is short, greatly constricted near the middle, enormously swollen and recurved apically. North America.

Genus EPIDIPLOSIS Felt 1908, type *E. sayi* Felt.

Easily separated from the preceding genus by the long, setose apical process on the basal clasp segment, strongly suggesting the genitalic structure of *Lobodiplosis* though readily distinguished therefrom by the simple claws. North America.

Genus LESTODIPLOSIS Kieff. 1894, type *L. septemguttata* Kieff.

Frail, usually yellowish species with spotted wings. Easily recognized by the triangular lobe at the internal basal angle of the basal clasp segment; the ventral plate is scarcely longer than broad. Syno-

nymy: *Leptodiplosis* Kieff.; *Coprodiplosis* Kieff. Europe, North America.

Genus PROCONTARINIA Kieff. and Cec. 1906, type *P. matteiana* Kieff. and Cec.

This Indian species may be separated from the preceding genus by the basal lobe on the basal clasp segment not being well developed; the ventral plate is long, broad, broadly and roundly emarginate. Asia.

Genus PARADIPILOSIS Felt 1908, type *Cecidomyia obesa* Felt.

Distinguished from the preceding four genera by the basal clasp segment being without conspicuous lobes or spines. This structure is short, broad, while the terminal clasp segment is short, stout and apically with a broad, chitinated, serrate margin; dorsal and ventral plates short, broad, each triangularly emarginate. North America.

Genus HARMANDIA Kieff. 1896, type *Diplosis tremulæ* Winn.

Separated from the preceding genus by the dorsal and ventral plates being deeply and roundly emarginate; the ovipositor is apparently short. Europe.

Genus MACRODIPILOSIS Kieff. 1895, type *Diplosis dryobia* F. Lw.

Separated from the two preceding genera by the dorsal and ventral plates being narrowly rounded or but slightly emarginate; the terminal clasp segment is swollen basally, the apex being smooth. Kieffer states that the third and fourth antennal segments are not fused and that the pulvilli are almost as long as the claws. Europe.

Genus XYLODIPILOSIS Kieff. 1894, type *Diplosis præcox* Winn.

A synonym of *Cecidomyia nigratarsis* Zett.

The dorsal plate is triangularly emarginate and the ventral plate broadly and roundly emarginate. Separated from the following genus by the rudimentary pulvilli and the long terminal clasp segment, the latter not swollen basally. Europe.

Genus DELODIPILOSIS Tav. 1908, type *D. copaibæ* Tav.

Distinguished from the preceding genus by the pulvilli being as long as the claws and the terminal clasp segment being swollen basally. Africa.

Genus BRACHYDIPILOSIS Rübs. 1910, type *B. caricum* Rübs.

The following three genera are separated from the preceding forms by the long ventral plate, which, in this genus, is emarginate. The

lobes of the dorsal plate are short, truncate, the hair whorls on the female antennæ are erect. Europe.

Genus PARALLELODIPLOSIS Rübs. 1910, type *Diplosis galiiperda* F. Lw.

The long ventral plate is narrowly rounded apically, while the basal antennal node in the male is simple, the distal double. To this genus belong forms previously referred by the writer to *Clinodiplosis* Kieff. Europe, North America, and probably South America.

Genus XENODIPLOSIS new name, type *Allodiplosis læviusculi* Rübs.

Distinguished at once from the preceding and probably from all other Itonidiniæ by the basal node of the flagellate antennal segments in the male being double, the distal simple. *Allodiplosis* Rübs., Sept., 1910, preoccupied by *Allodiplosis* Kieff. & Jörg., July, 1910.

Genus OBOLODIPLOSIS Felt 1908, type *Cecidomyia orbiculata* Felt.

The terminal clasp segment is greatly produced, being nearly one half longer than the basal clasp segment; the dorsal plate is greatly expanded, nearly divided, the lobes orbicular, while the ventral plate appears to be widely separated, the two lobes being short, stout and roundly triangular. North America.

Genus ITONIDA Meign. 1800, type *Tipula pini* DeG.

Antennal segments 14; three distinct circumfili, the nodes unequal; palpi quadriarticulate, the third vein uniting with the margin well beyond the apex of the wing; the pulvilli longer than the simple claws; the dorsal and ventral plates of the male genitalia deeply bilobed; ovipositor rather long, the lobes narrowly oval. Distribution probably world-wide.

Genus ACODIPLOSIS Kieff. 1895, type *Cecidomyia inulæ* H. Lw.

Palpi triarticulate; pulvilli longer than the claws. Easily recognized by the second antennal segment with a distinct tooth or ventral spine. Synonym: *Arthrocerastis* Rübs. Europe.

Genus ODONTODIPLOSIS Felt 1908, type *Cecidomyia karnerensis* Felt.

Distinguished from the preceding by the pulvilli not being longer than the claws and the absence of a distinct tooth or ventral spine on the second antennal segment. Peculiar because of the somewhat conical ventral plate or harpes with serrate margins. North America.

Genus ADIPLOSIS Felt 1908, type *Cecidomyia toxicodendri* Felt.

Easily separated from the preceding genus by the ventral plate

or harpes not being serrate and as long as the dorsal plate, the basal clasp segment stout. North America.

Genus DYODIPLOSIS Rübs. 1910, type *Hormomyia arenaria* Rübs.

A large form with triarticulate palpi. Separated from the preceding genus by the ventral plate being much shorter than the dorsal plate and slightly emarginate apically; the circumfili of the female are erect and united by two commissures. Europe.

Genus COMPSODIPLOSIS Tav. 1909, type *C. luteo-albida* Tav.

Separated from the preceding genera with simple claws by the biarticulate palpi; the stem of the fifth antennal segment has a length one fourth that of the cylindric basal enlargement; pulvilli not longer than the claws, the ovipositor short, the lobes broadly oval. South America.

Genus COURTEIA Kieff. and Leeuw.-Reijn. 1910, type *C. graminis* Kieff. and Leeuw.-Reijn.

This Javanese genus is distinguished from the preceding by the stem of the antennal segment having a length two thirds that of the cylindric basal enlargement; the pulvilli are as long as the claws, the ovipositor short, the lobes with a length twice the width. Asia.

Genus CYSTODIPLOSIS Kieff. & Jörg. 1910, type *C. longipennis* Kieff. & Jörg.

Separated from the preceding forms by the uniarticulate palpi and from the evidently allied *Monarthropalpus* Rübs. by the greater development of the circumfili.

A CORRECTION.

Volume XVIII, page 207, line 4, for CEDARIA RITARIA read BARNESIA RITARIA.

JOHN A. GROSSBECK.